Curriculum Vitae (C.V.)

First name: Azam
Surname: Bolhassani
Sex: Female
Nationality: Iranian
Place of Birth: Tehran, Iran
Office Address: "Department of Hepatitis and AIDs, Pasteur Institute of Iran (IPI), Tehran, Iran
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Educational Background:
Diploma in Mathematics and Physics Sciences, Tehran, Iran
B.Sc. degree in Biology, Tehran University, Tehran, Iran
B.Sc. degree in Chemistry, Central Tehran University, Tehran, Iran
M.Sc. degree in Clinical Biochemistry, Tarbiat Modarres University, Tehran, Iran
Ph.D. degree in Clinical Biochemistry, Tarbiat Modarres University, Tehran, Iran
Post Doc in "Molecular Immunology and Vaccine Research" Laboratory, Pasteur Institute of Iran (IPI), Tehran, Iran
Current position: Assistant Professor

Thesis:
M.Sc. degree: "The *in vitro* study of the effect of Iranian Saffron components on DNA structure"
Ph.D. degree: "Cloning, expression and purification of HPV16E7 and heat shock 96 recombinant proteins for evaluation of their immuno-stimulatory potential in C57BL/6 mice model"

Awards:
1. First grade in M.Sc
2. First grade in Ph.D.

3. Young Researcher (Razi prize) in Molecular Biology category**,** 7th Iranian Congress of Biochemistry, Ahvaz Medical Science University, Iran, 2003
4. Young Scientist Travel Grant in Vaccine category, 13th International Congress of Immunology (ImmunoRio2007), Brazil, 2007
5. Young Researcher (Razi prize) in Biotechnology, 10th Iranian Congress of Biochemistry and 3nd International Congress of Biochemistry and Molecular Biology, Tehran University, Iran, 2009
6. Young Scientist Travel Fellowship, HKU-Pasteur Research Centre, Meeting of the Institute Pasteur International Network on Different diseases, Hong Kong, Nov. 2010
7. Young Scientist Travel Fellowship, 12th ICB & 4th ICBMB, Pasteur Institute Network, Invited as speaker, 2011

Research projects:
1. Effect of Hofmeister ions on H1 structure and H1-DNA interaction, Tarbiat Modarres University, Tehran, Iran [Approved by Tarbiat Modarres University]
2. Evaluation of immuno-stimulatory potential of HPV16E7 in the presence of GP96 in C57BL/6 mice model and determination of E7 antigenicity in patients suffering from papillomavirus infection, Pasteur Institute of Iran and Tarbiat Modarres University, Tehran, Iran [Approved by Iran National Science Foundation]
3. Evaluation of Tat-PEI nanoparticle effect in DNA vaccination using HPV16E7 in C57BL/6 mice model, Pasteur Institute of Iran and Tarbiat Modarres University, Tehran, Iran [M.Sc student project]
4. Evaluation of VP22 of HSV-1 and its efficiency in DNA vaccination by fusing to Amastin of *L. major*, Pasteur Institute of Iran, Tehran, Iran [Approved by Pasteur Institute of Iran]
5. A novel strategy combining live non-pathogenic *Leishmania* expressing selected parasite antigens with sand fly salivery gland components as a candidate vaccine for cutaneous leishmaniasis. International project approved by National Institutes of Health; Pasteur Institute of Iran, Tehran, Iran
6. Contribution of human neutrophils in the development of protective immune responses during *in vitro Leishmania major* infection, International project approved by Karolinska, Sweden; Pasteur Institute of Iran, Tehran, Iran
7. Generation and characterization of a preventive and therapeutic HPV DNA vaccine using HPV16 E7 co-linked to GRP94 and chemokines, Pasteur Institute of Iran, Tehran, Iran [Ph.D. student project]
8. A live nonpathogenic *Leishmania* expressing selected immunodominant parasite antigens as a candidate vaccine against visceral leishmaniasis, Pasteur Institute of Iran, Tehran, Iran [Ph.D. student project]
9. Anti Leishmanial activity of human α-defensin-1 (HNP-1) and its contribution with CpG motif on infected human neutrophils, Pasteur Institute of Iran, Tehran, Iran [Ph.D. student]

10. Production of different transgenic *Leishmania* strains expressing Green fluorescent protein (GFP) through homologous recombination into the chromosomal 18S rRNA locus of parasite, Pasteur Institute of Iran, Tehran, Iran [Approved by Pasteur Institute of Iran]

11. Production of a recombinant *Leishmania tarentolae* expressing HPV16 E7 gene and evaluation of its immunogenicity in C57BL/6 mice model, Pasteur Institute of Iran, Tehran, Iran [M.Sc student project]

12. Design of recombinant non-pathogenic *Leishmania tarentolae* vaccines expressing HPV16 E7 linked to Gp96 and their immuno-stimulatory potential in C57BL/6 mice tumor model, Pasteur Institute of Iran, Tehran, Iran [Approved by Iran National Science Foundation]

13. Immunological efficacy study of whole recombinant killed *Pichia pastoris* and *Leishmania tarentolae* expressing HPV16 L1 capsid protein in C57BL/6 mice model, Pasteur Institute of Iran, Tehran, Iran [Approved by Pasteur Institute of Iran]

14. Cloning, expression and purification of recombinant HPV16 E7-CT (gp96) fusion protein for immunity evaluation of DNA vaccine in C57BL/6 tumor mice model, Pasteur Institute of Iran, Tehran, Iran [M.Sc student project]

15. Immunological evaluation of *Leishmania tarentolae* expressing the HPV16E7 gene fused to NT-gp96 in C57BL/6 tumor mice model, Pasteur Institute of Iran, Tehran, Iran [M.Sc student project]

16. Evaluation of therapeutic anti-tumor effects by combination of crocin treatment with therapeutic HPV DNA vaccination in C57BL/6 mice model, Approved by Eastern Mediterranean Health Genomics & Biotechnology Network (EMGEN), Pasteur Institute of Iran and Tarbiat Modarres University, Tehran, Iran

17. Evaluation of antitumor effects generated by DNA vaccine expressing HPV16 E7-NT (gp96) fusion protein along with crocin as a carotenoid in C57BL/6 mice model, Pasteur Institute of Iran, Tehran, Iran [M.Sc student project]

18. Study of cytotoxic and apoptotic effects of crocin as a main carotenoid from Iranian saffron, in TC-1 tumor cells *in vitro*, Pasteur Institute of Iran, Tehran, Iran [M.Sc student project]

19. Cloning, expression and purification of HPV16 L1 in prokaryotic expression system, Pasteur Institute of Iran, Tehran, Iran [M.Sc student project]

Publications:

1. Salehi M., Taheri T., Mohit E., Zahedifard F., Seyed N., Bolhassani A., Rafati S. Recombinant *Leishmania tarentolae* encoding the HPV type 16 E7 gene in tumor mice model, Immunotherapy 2012

2. Bolhassani A., Zahedifard F. Therapeutic Live Vaccines as a Potential Anti-Cancer Strategy, Int. J. Cancer 2012

3. Daemi A., Bolhassani A., Rafati S., Zahedifard F., Hosseinzadeh S., Doustdari F. Different domains of glycoprotein 96 influence HPV16 E7 DNA vaccine potency via electroporation mediated delivery in tumor mice model. Immunology Letters 2012

4. Bolhassani A., Rafati S. Mini-chaperone: Potential immuno-stimulators in vaccine design. Human Vaccines & Immunotherapeutics 2012

5. Daemi A., Hosseinzadeh S., Rafati S., Zahedifard F., Rajabi Bazl M., Doustdari F., Hashemi M., Agi E., Bolhassani A. HPV16 E7-CT (gp96) Fusion Protein: Molecular Cloning, Expression and Purification of a Recombinant 6xHis-tagged Protein in *E. coli*. Journal of Paramedical Sciences (JPS), 2012

6. Hosseinzadeh S., Daemi A., Bolhassani A. Heat Shock Proteins as the Efficient Vehicle in Cancer. Journal of Solid Tumors, 2012

7. Mohit E., Bolhassani A., Zahedifard F., Seyed N., Eslamifar A., Taghikhani M., Samimi-Rad K., Rafati S. Immunomodulatory Effects of IP-10 Chemokine along with PEI600-Tat Delivery System in DNA Vaccination against HPV Infections. Mol. Immunol. 2012

8. Mohit E., Bolhassani A., Zahedifard F., Taslimi Y., Rafati S. The Contribution of NT-gp96 as An Adjuvant for Increasing HPV16 E7-Specific Immunity in C57BL/6 Mouse Model. Scand. J. Immunol. 2012

9. Bolhassani A. Potential Efficacy of Cell-Penetrating Peptides for Nucleic Acid and Drug Delivery in Cancer. BBA- Reviews on Cancer, 2011

10. Bolhassani A., Rafati S. Non-viral Delivery Systems in Gene Therapy and Vaccine Development. Full chapter for the book entitled as "Gene Therapy", InTech - Open Access Publisher, Published in 2011

11. Safaiyan S., Bolhassani A., Nylen S., Akuffo H., Rafati S. Contribution of Human Neutrophils in the Development of Protective Immune Response during *in vitro Leishmania major* Infection. Parasite Immunology, 2011

12. Bolhassani A., Taheri T., Taslimi Y., Zamanilui S., Zahedifard F., Seyed N., Torkashvand F., Vaziri B. and Rafati S. Fluorescent *Leishmania* species: Development of stable GFP expression and its application for *in vitro* and *in vivo* studies. Experimental Parasitology, 2011

13. Bolhassani A., Safaiyan S. and Rafati S. Improvement of different vaccine delivery systems for cancer therapy. Molecular Cancer 2011

14. Bolhassani A., Gholami E., Zahedifard F., Moradin N., Parsi P., Doustdari F., Seyed N., Papadopoulou B. and Rafati S. *Leishmania major*: Protective capacity of DNA vaccine using amastin fused to HSV-1 VP22 and EGFP in BALB/c mice model. Experimental Parasitology 2011

15. Bolhassani A., Mohit E. and Rafati S. Different Spectra of Therapeutic Vaccine Development against HPV Infections. Human Vaccines 2009

16. Bolhassani A. and Rafati S. DNA Immunization as an Efficient Strategy for Vaccination. Avicenna Journal of Medical Biotechnology 2009

17. Bolhassani A., Ghasemi N., Servis C., Taghikhani M. and Rafati S. The Efficiency of a Novel Delivery System (PEI600-Tat) in Development of Potent DNA Vaccine Using HPV16 E7 as a Model Antigen. Drug Delivery 2009

18. Bolhassani A., Zahedifard F., Taslimi Y., Taghikhani M., Nahavandian B. and Rafati S. Antibody Detection against HPV16E7 and Gp96 Fragments as Biomarkers in Cervical Cancer Patients. Indian Journal of Medical Research 2009

19. Bolhassani A., Zahedifard F., Taghikhani M. and Rafati S. Enhanced Immunogenicity of HPV16E7 Accompanied by Gp96 as an Adjuvant in Two Vaccination Strategies. Vaccine 2008

20. Bolhassani A. and Rafati S. Heat Shock Proteins as Powerful Weapons in Vaccine Development. Expert Review of Vaccine 2008

21. Bathaie S.Z., Bolhasani A., Hoshyar R., Ranjbar B., Sabouni F. and Moosavi-Movahedi A.A. Interaction of Saffron Carotenoids as Anti-Cancer Compounds with ctDNA, oligo $(dG.dC)_{15}$ and oligo $(dA.dT)_{15}$. DNA and Cell Biology 2007

22. Bolhasani A., Bathaie S.Z., Yavari I., Moosavi-Movahedi A.A. and Ghaffari M. Separation and Purification of Some Components of Iranian Saffron. Asian Journal of Chemistry 2005

23. Bolhassani A., Taghikhani M., Ghasemi N., Soleimanjahi H. and Rafati S. Comparison of Two Delivery Systems Efficiency by Using Polyethylenimine (PEI) for Plasmid HPV16E7 DNA Transfection into COS-7 Cells. Modarres Journal of Medical Sciences 2008

24. Bolhasani A., Bathaie S.Z., Ghaffari M. and Moosavi-Movahedi A.A. Interaction of Monoterpene Aldehydes of Iranian Saffron with DNA. Modarres Journal of Medical Sciences 2003

25. Bathaie S.Z., Ashrafi M., Bolhasani A., Etemadi-Kia B. and Moosavi-Movahedi A.A. Purification of Carotenoids and Monoterpen Aldehydes from Iranian Saffron and Investigation of Their Effect on the Structure of DNA, Histone H1 and H1-DNA Complex. Medical Plants of Iran 2006

26. Bolhassani A., Mohit E., Ghasemi N., Salehi M., Taghikhani M., Rafati S. Enhancement of Potent Immune Responses to HPV16 E7 Antigen by Using Different Vaccine Modalities. BMC Proceedings 2011

27. To publish more than 20 abstracts in National and/or International congresses

28. A chapter in this book recently accepted entitled as "Challenges in Advancing the Field of Cancer Gene Therapy: An Overview of the Multi-Functional Nanocarriers", Intech, 2012

29. Three national patents with 15% share: Production of 1) Fluorescent *L. tarentolae*, 2) Fluorescent *L. major*, 3) Fluorescent *L. infantum*